

2.0 INDIVIDUAL WATERSHED DESCRIPTIONS

2.1 Rio Chamita

The Rio Chamita watershed is approximately 38 mi². Land ownership includes 94% State land and 6% privately held lands (Figure 2.1). An eight mile reach of the Rio Chamita, from the Chama village limit upstream to the Colorado state line is owned and managed by the New Mexico Department of Game and Fish (NMDGF) as part of the Edward Sargent Fish and Wildlife Area. This 20,400-acre wildlife area is used as a spring, summer, and fall range for elk, deer, and bear. The remaining portion of the Rio Chamita is within or adjacent to the Village of Chama (SWQB/NMED 2001a). Land use in this watershed is predominately forest (67%) and rangeland (33%). Approximately 15% of the watershed lies within Colorado (Figure 2.1). The Village of Chama Wastewater Treatment Plant (NPDES Permit No. NM0027731) effluent is discharged into the Rio Chamita approximately 1.5 miles upstream from the confluence with the Rio Chama.

The Rio Chamita is approximately 13.68 miles in length from the CO/NM border to the confluence with the Rio Chama (Photo 01). There were four sampling stations established on the Rio Chamita during the 1998 survey. Chemical, biological, and physical data were collected and assessed. The Rio Chamita was listed on the 2000-2002 Clean Water Act §303(d) list for temperature, ammonia, total phosphorus, fecal coliform, total organic carbon (TOC), and chronic aluminum. TMDLs for temperature, ammonia, total phosphorus, and fecal coliform were previously completed for Rio Chamita (SWQB/NMED 1999a, 1999b). The total phosphorus and TOC water quality standards for high quality coldwater fishery were subsequently removed from New Mexico's Water Quality Standards (NMAC 20.6.4). A level one plant nutrient assessment was performed on the Rio Chamita in June 2001 to confirm that there was no impairment of the narrative plant nutrient standard.



Photo 01. Rio Chamita below Sixto Creek, 07/20/98.

Rio Chamita Watershed Land Use/Cover

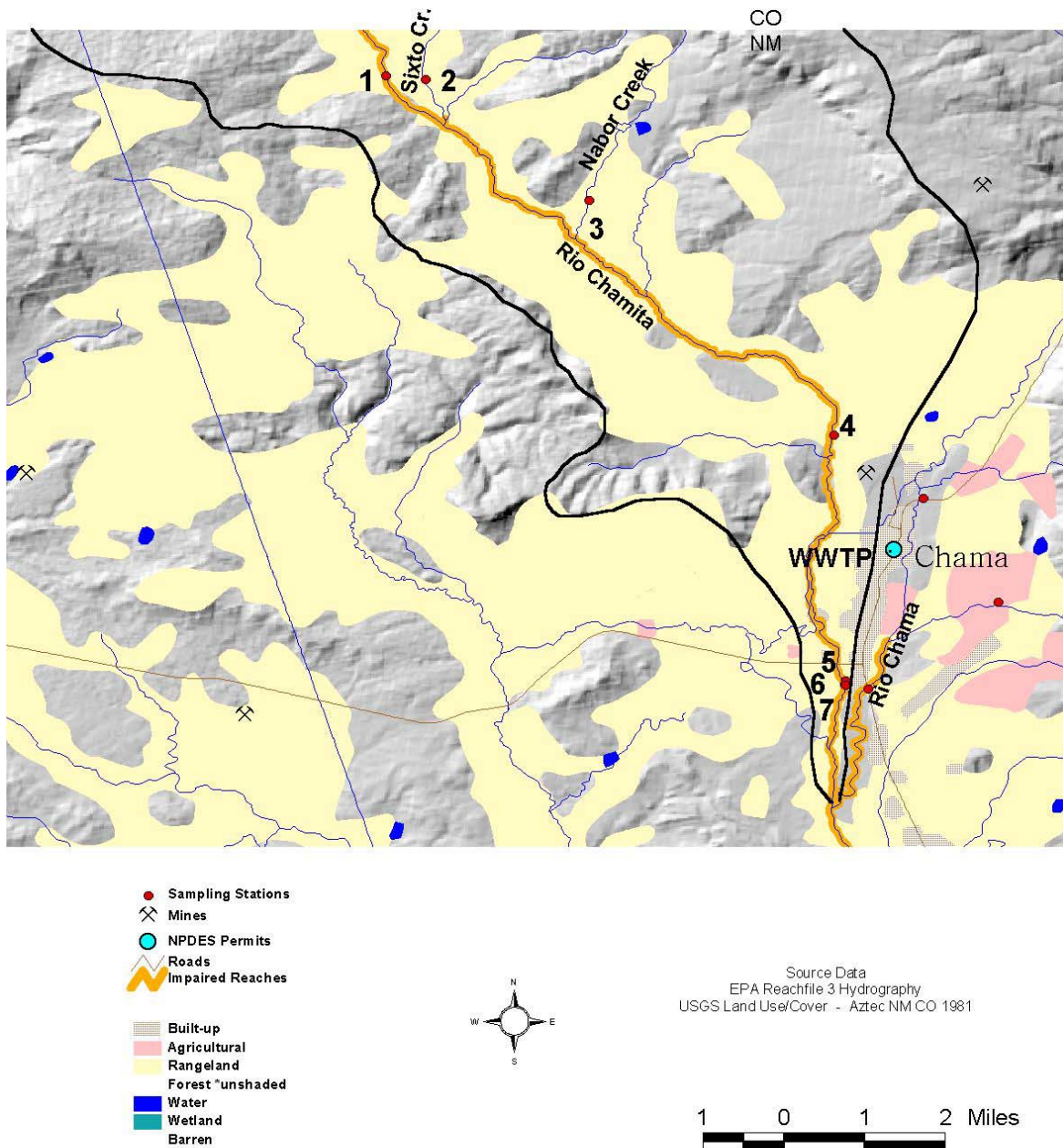


Figure 2.1 Rio Chamita Watershed Land Use and Sampling Stations

2.2 Rio Chama

The portion of the Rio Chama watershed upstream of Rio Brazos is approximately 221 mi² and includes Rio Chamita, Little Willow Creek, and Wolf Creek tributaries. Approximately 15% of the watershed lies within Colorado. Land ownership includes 14% State land and 85% privately held lands (Figure 1.1). Land use in this watershed is predominately forest (80%), rangeland (16%) and agriculture (4%) (Figure 2.2).

The Rio Chama from Rio Brazos to Little Willow Creek is approximately 11.72 miles in length (Photo 02). While access to the river along the majority of this reach is privately owned, there is a NMDGF access approximately two miles south of the Village of Chama. There were four sampling stations established on the Rio Chama during the 1998 survey. Additional thermograph data was collected at State Highway 95 in 2002. Chemical, biological, and physical data were collected and assessed. Rio Chama from the confluence with Rio Brazos to Little Willow Creek was listed on the 2000-2002 Clean Water Act §303(d) list for temperature.



Photo 02. Rio Chama upstream of confluence with Rio Brazos, 07/24/02.

Upper Chama Watershed Land Use/Cover

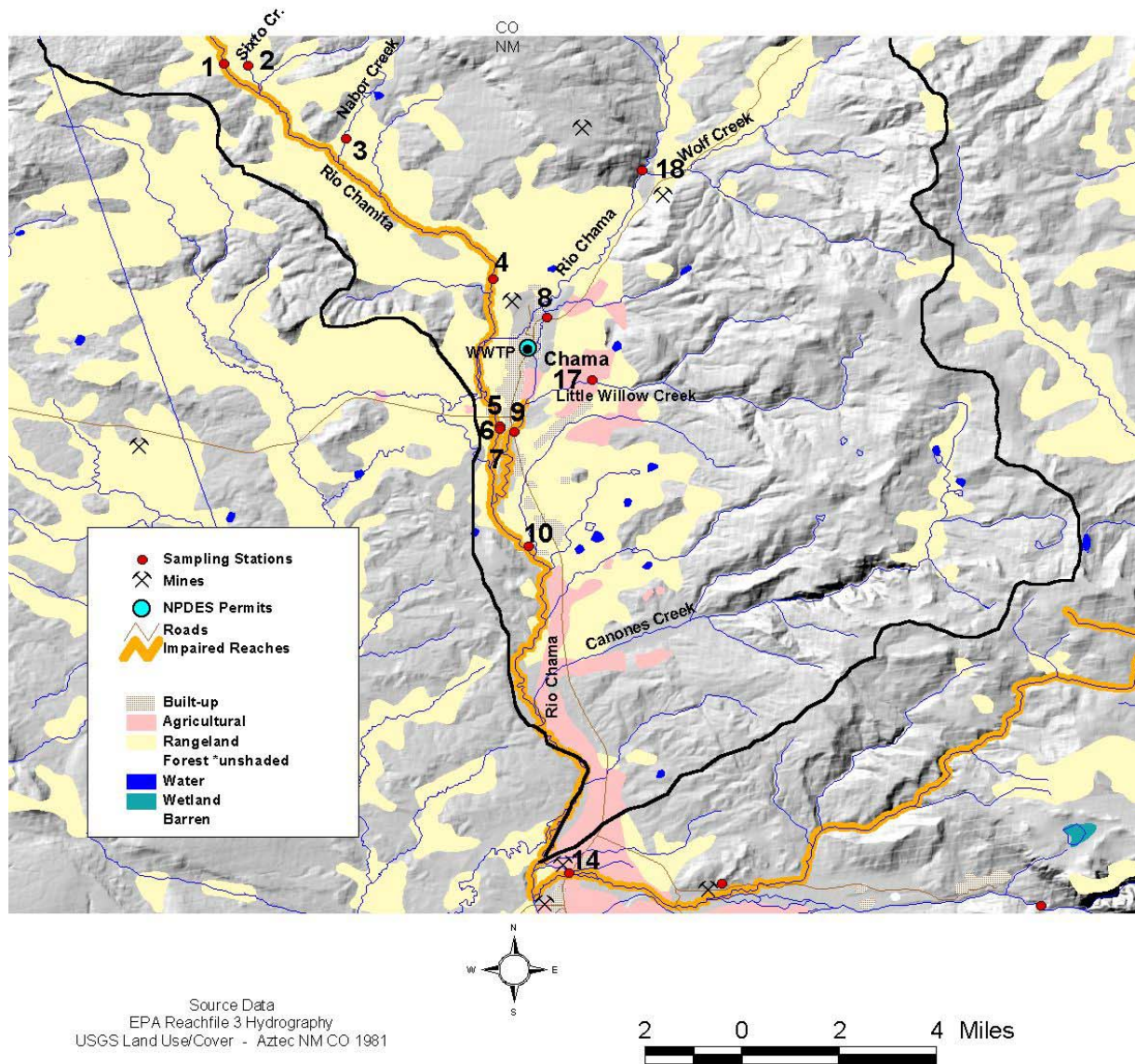


Figure 2.2 Rio Chama Watershed Land Use and Sampling Stations

2.3 Chavez Creek

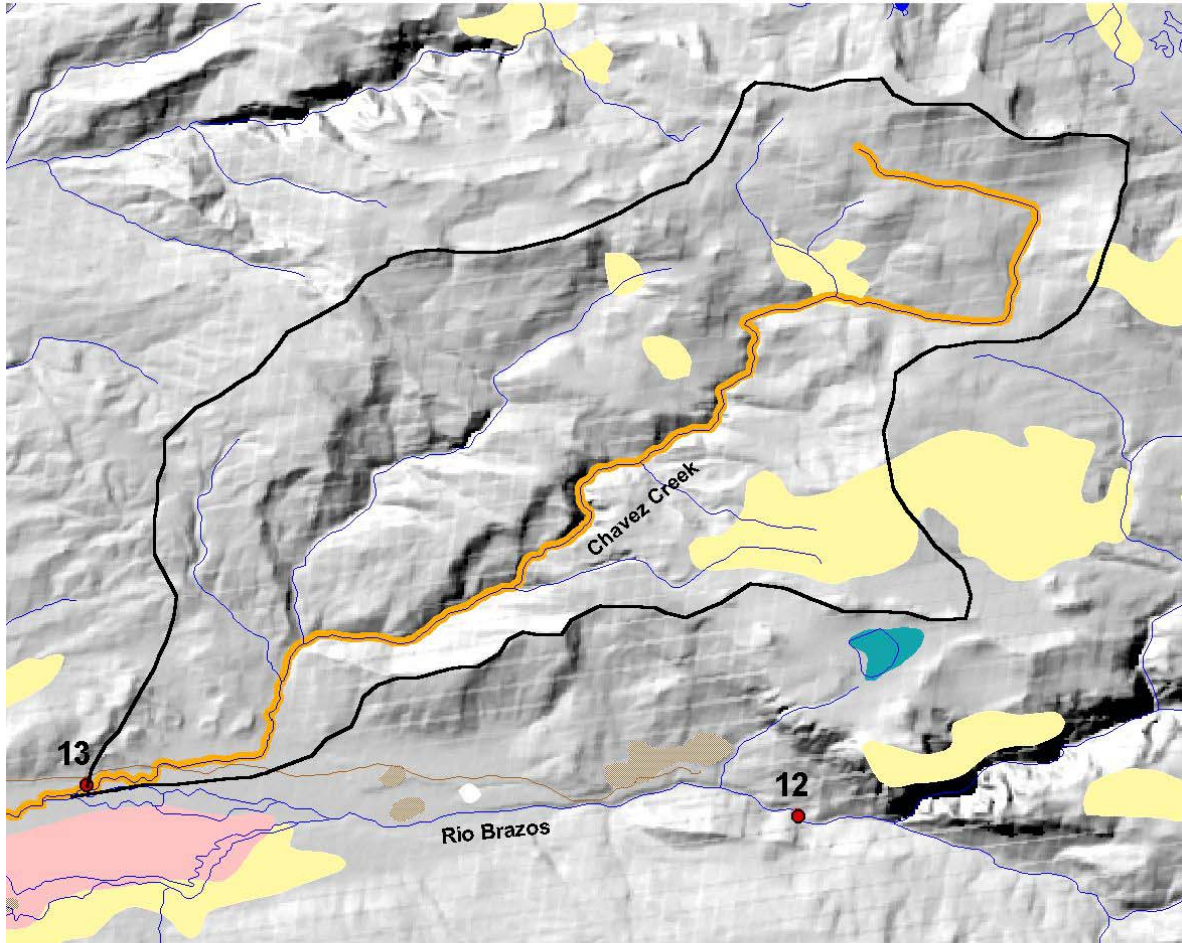
The Chavez Creek watershed is approximately 25 mi². Land ownership is 100% private (Figure 1.1). Land use in this watershed is predominately forest (92%) rangeland (8%) (Figure 2.3). The Rocky Mountain Elk Foundation holds a Designated Conservation Easement on 395 acres along Chavez Creek. The middle portion of the watershed constricts into a box canyon.

Chavez Creek is approximately 12.59 miles in length (Photo 03). Due to private land access issues, only one sampling location was established on Chavez Creek during the 1998 survey. Chemical, biological, and habitat measurements were collected in 1998 and 2002 at this station. Chavez Creek from the confluence from the Rio Brazos to the headwaters was listed on the 2000-2002 Clean Water Act §303(d) list for temperature.



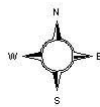
Photo 03. Chavez Creek at Country Road 512, 06/10/02.

Chavez Creek Watershed Land Use/Cover



● Sampling Sites
 Roads
 Impaired Reaches

 Built-up
 Agricultural
 Rangeland
 Forest *unshaded
 Water
 Wetland
 Barren



Source Data
 EPA Reachfile 3 Hydrography
 USGS Land Use/Cover - Aztec NM CO 1981

1 0 1 2 Miles


Figure 2.3 Chavez Creek Watershed Land Use and Sampling Stations

2.4 Rio Brazos

The Rio Brazos watershed is approximately 171 mi². Land ownership includes 4% USFS land and 96% privately held lands (Figure 1.1). Land use in this watershed is predominately forest (64%), rangeland (30%) and agriculture (6%) (Figure 2.4). The middle portion of the watershed is comprised of the Brazos Cliffs and Brazos Box.

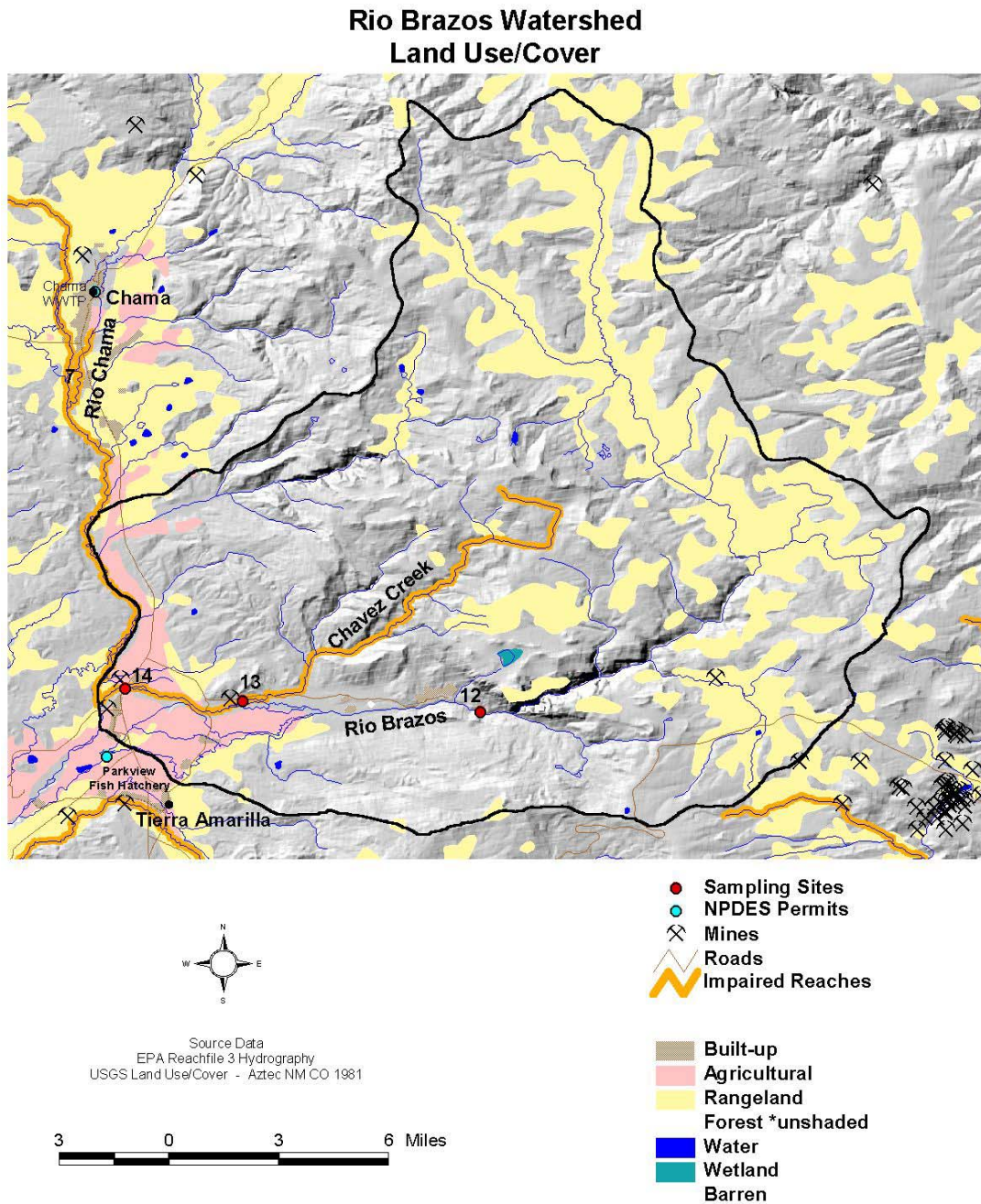


Figure 2.4 Rio Brazos Watershed Land Use and Sampling Stations

Rio Brazos from the Rio Chama to Chavez Creek is approximately 3.52 miles in length (Photo 04). There were two sampling stations established on the Rio Chama during the 1998 survey. Chemical, biological, and physical data were collected and assessed. An additional thermograph station was located at County Road 162 in 2002. Rio Brazos from the Rio Chama to Chavez Creek was listed on the 2000-2002 Clean Water Act §303(d) list for temperature.



Photo 04. Rio Brazos upstream of HWY 84 bridge, 07/23/02.

2.5 Rito de Tierra Amarilla

The Rito de Tierra Amarilla watershed is approximately 61.3 mi². Land ownership is 100% privately held lands (Figure 1.1). Land use in this watershed is predominately forest (70%), rangeland (25%), and agriculture (5%) (Figure 2.5).

Rito de Tierra Amarilla Watershed Land Use/Cover

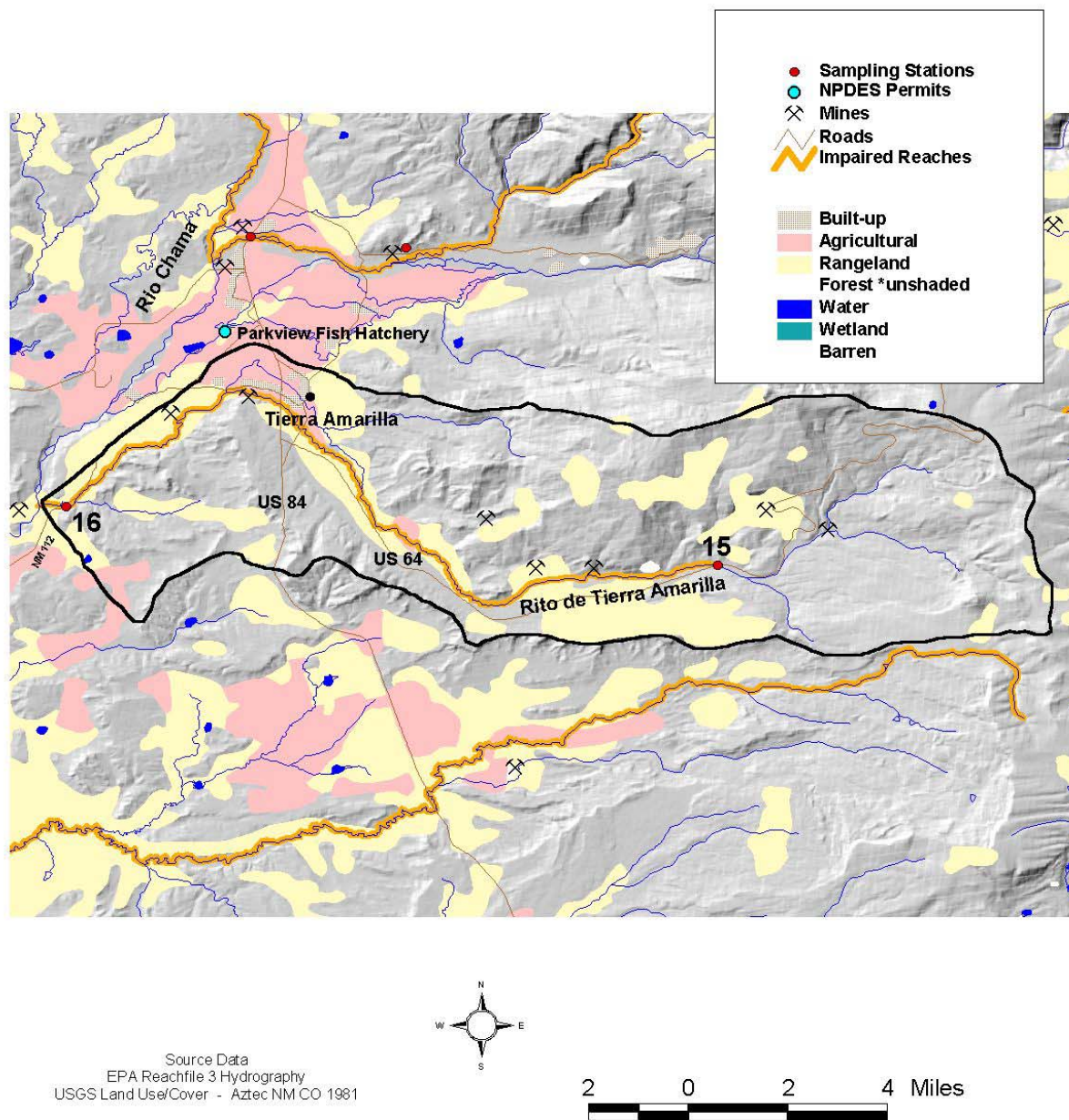


Figure 2.5 Rito de Tierra Amarilla Land Use and Sampling Stations

Rito de Tierra Amarilla from Rio Chama to State Highway 64 is approximately 15.8 miles in length (Photo 05). There were two sampling stations established on the Rio Chama during the 1998 survey. Chemical, biological, and physical data were collected and assessed. Additional data were collected in 2001 and 2002. Rito de Tierra Amarilla from Rio Chama to State Highway 64 was listed on the 2000-2002 Clean Water Act §303(d) list for turbidity, stream bottom deposits, and temperature.



Photo 05. Rito de Tierra Amarilla station 16 at Highway 112, 07/20/98.